



# **distributed Learning Overview**

**to**

**GEN Wallace, CG TRADOC**

**December 2005**

# Purpose

- **Address specific CG TRADOC concerns**
- **To seek CG TRADOC guidance and support for TADLP way ahead**
- **To provide CG TRADOC with overview of the Army distributed Learning Program**

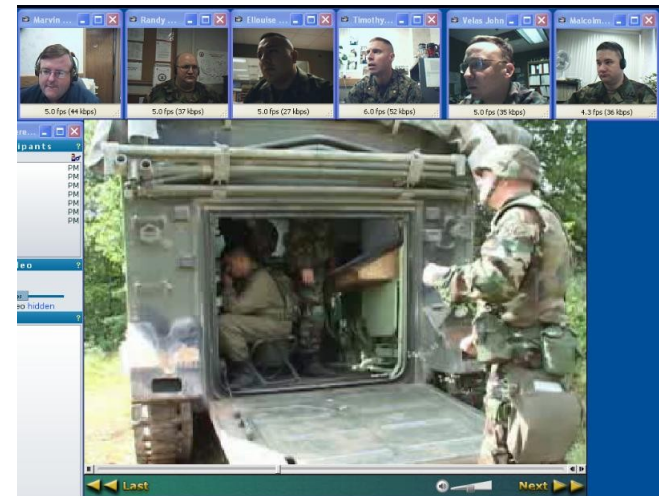
# Stryker Vehicle Demo

## Battle Damage Assessment and Repair



# Gator 6 Demo

## Experiential Learning for Leaders



# The Army distributed Learning Program

**Mission: To improve readiness by the delivery of standardized individual, collective, and self-development training to Soldiers and units any time and any place through the application of multiple means and technologies.**



**1996**

**Program Originates**



**2010**

**Program Implemented**

# Army dL Vision & Goals

**Deliver high quality, individually tailored, and cost effective training and education to Soldiers and leaders anywhere, anytime through an integrated network of technological capabilities and processes**

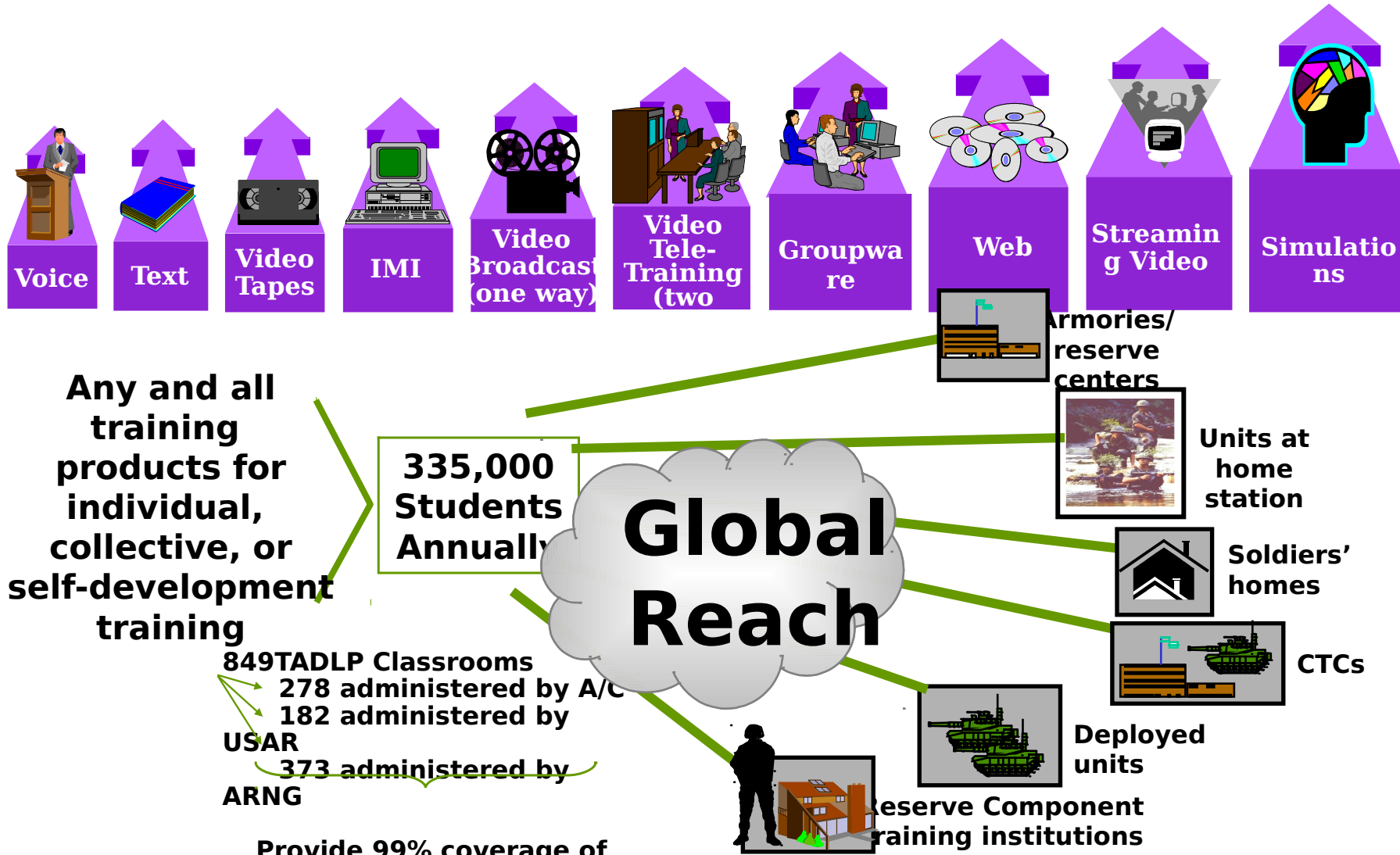
**The TADLP vision is to achieve the following goals:**

- **Support Army at War!**
- **Support ARFORGEN model!**
- **Provide better stability and quality of life for Soldier families!**
- **Increase readiness**
- **Provide reach-back access to training and reference material**
- **Improve access and opportunity for training**
- **Provide lifelong learning**
- **Increase effectiveness in training and education**

# **dL Supports Adult Learning**

- **Improve Soldier learning opportunities**
  - **Self-paced training for different learning styles**
  - **Standardized instruction**
  - **Improved access**
  - **Supports RC training capabilities**
- **Facilitates agile adaptive Soldiers & leaders**

# The Original dL Requirement



# dL Need Quantified in 1996

- The impacts of downsizing
    - More Soldier time
    - Less student time
  - 34,000 Soldiers deployed in 70 countries on a given day
  - 125,000 forward deployed Soldiers
  - Mission requirements increased by 300%
  - Manpower down 35%; resources down 40%
  - Average deployment time 138 days per year
  - 2 distinct training standards: AC; RC
- The need for dL has increased with the demands of the GWOT!**

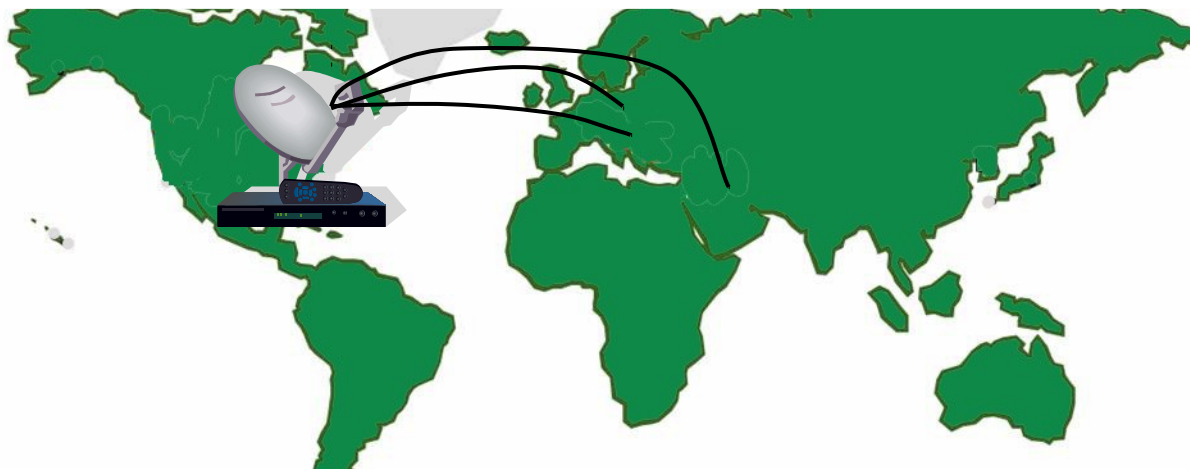


# DDTC Early Generation 4 Prototype

**Currently deployed with the 101st**

**ABN Div in Iraq**

- System is set-up and operational with 101<sup>st</sup> ABN Div in Tikrit, Iraq
- Current usage is approximately 40% Military web based training and 60% MWR, operating 18 hours a day with an average student / Soldier fill of 90%
- Plans are underway to upgrade availability to 24/7
- Lessons learned are currently being incorporated into objective system requirements documents



# distributed Learning Analytical Support

- “Majority of studies conclude that dL is as effective as traditional instruction in achieving instructional objectives.”
- “dL is effective for : seminars, group instruction, individual training, hands-on, and laboratory.”  
dL Annotated Bibliography, ~*TRADOC Analysis Center, 1997 and 2000~*

**Over  
100 dL studies  
reviewed**



**studies show that dL:**

- ✓ Reduces cost of instruction by 30% to 60%
- ✓ Reduces time of instruction by 20% - 40%
- ✓ Increases effectiveness of instruction by 30%
- ✓ Improves organization efficiency and productivity

# **dL Evaluation Findings**

## **Battle Staff NCO Course (BSNCOC)-dL:**

**Study conducted by ARI at the Sergeants Major Academy compared students in BSNCOC-dL to students in legacy “BSNCOC” (resident course). End of course test scores were comparable. Each group performs equally well according to “on-the-job” supervisory ratings 6 to 16 months after training.**

## **Combined Arms & Services Staff School (CAS<sup>3</sup>):**

**Training Effectiveness Analysis of the CAS<sup>3</sup> dL option found that in general, dL students performance was equivalent to resident students performance on dL phase course products. dL students performed at least as well as resident students during resident phase. Little difference was found in dL teamwork, enthusiasm, participation, classroom interactions, or group cohesion compared to resident.**

## **Armor Captains Career Course dL (AC3-dL):**

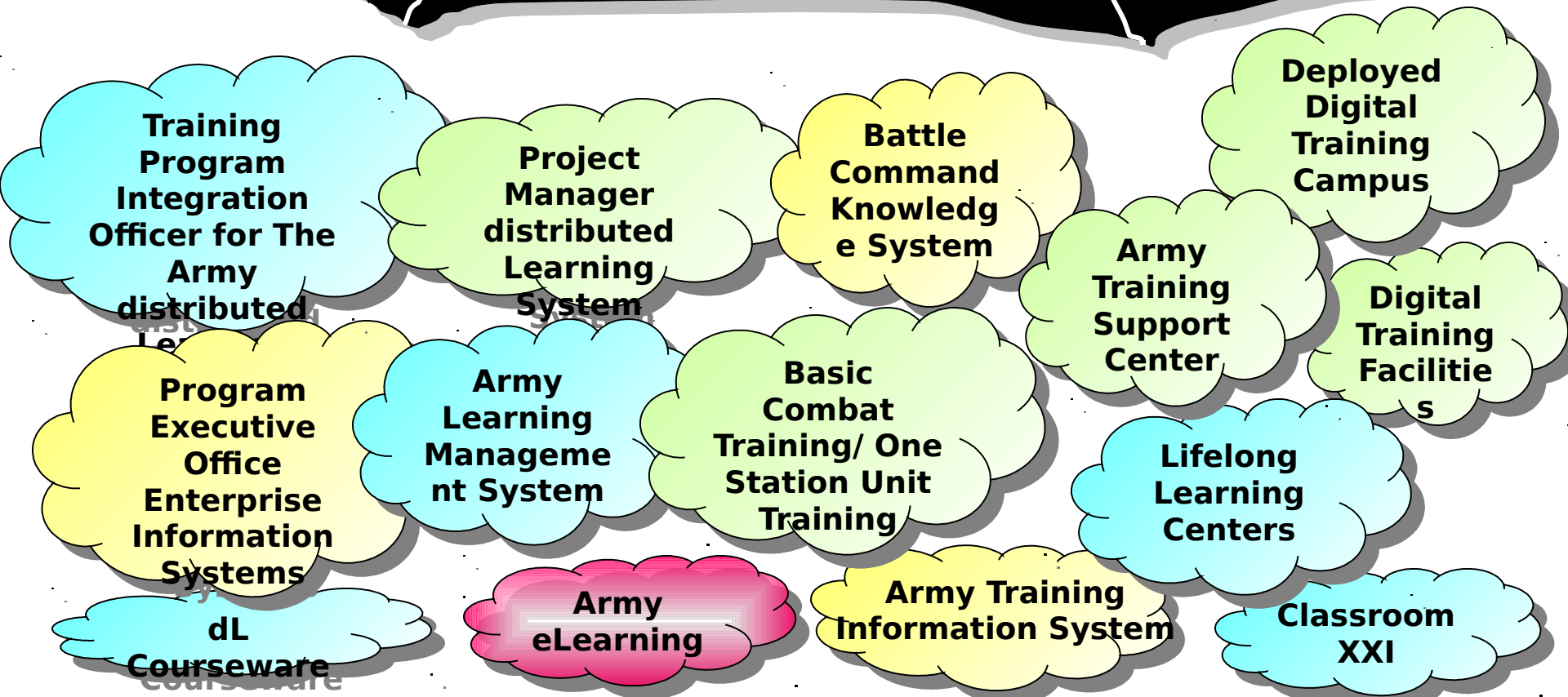
**Study conducted by ARI at Armor school compared students in AC3-dL to students in legacy “Armor Officer Advanced Course-RC” (correspondence course). 83% of students rated all phases of the course “High” or “Very High.” 90% of student complaints have already been fixed.**

# dL Metrics Way Ahead

- The Systems Approach to Training (TR350-70) ensures all courses, regardless of delivery medium, are continuously validated for effectiveness through internal evaluations, dL courseware validation and external evaluations
- TPIO dL has developed a statistical model to enable the continuous assessment of dL effectiveness using automated tools developed by ARI and currently used for external evaluations
  - Collects data for all course iterations (resident & dL)
  - Assesses graduate competency against actual individual task performance
  - Competency assessment by graduate and on the job supervisor
- TPIO dL data analysis - multivariate regression model (linear equation):
  - dL effectiveness is a function of graduate and supervisory assessment of task performance
  - Model can be automated

# The Army distributed Learning Program

## Umbrella Army Distributed Learning



# **Key Components of TADLP Program Management**

**Infrastructure**

**Courseware Development and Fielding**

**Training Management Systems**

**Deployed Training System**

**Sustainment**

# Program Management

## • Who:

### • **HQDA G-3**

- General Officer Steering Committee (TL-GOSC)
- dL Council of Colonels

### • **HQ TRADOC**

- CG TRADOC (EA)
- DCSOPS&T
- TPIO TADLP (CBTDEV)
- DCSRM
- ATSC (CW MATDEV)

### • **PEO EIS**

- PM DLS (MATDEV)

## • What:

- **Programming**
- **Fiscal management**
- **Program execution**
- **Program sustainment**
- **User requirements**
- **Technical standards**
- **System architecture**

# Program Management Implementation

**TPIO (CBTDEV): represent user community, identify requirements, integrate program into Army culture and architecture**

**ATSC (CW MATDEV): manage redesign of 525 courses through FY2010**

**PM DLS (MATDEV): acquire and field**

- **274 Digital Training Facilities (DTF) (85% of footprint)**
- **Army Learning Management System**
- **Deployable training system**



# Infrastructure

## • Who:

- HQDA G-3
- TPIO TADLP
- PM Distributed Learning System (DLS)
- Chief, National Guard Bureau (CNGB)
- Chief, Army Reserve (CAR)
- MACOMs

## • What:

- Field Digital Training Facilities
- Fielding timelines- establish / maintain
- Funding
- Equipment
- Communications infrastructure
- Coordinate with NGB dL program
- Enterprise Management hardware for Army Learning Management System

# Infrastructure Implementation

- Digital Training Facilities fielding: 274 fielded to date (~600K trained at DTFs in FY04-05)
- Enterprise Management center fielding: complete (FT Eustis)

# Courseware Development and Fielding

## • Who:

### • **HQ TRADOC**

- TPIO TADLP
- Training Operations Management Activity (TOMA)
- Army Training support Center (ATSC) / ITSD
- Proponent Schools & Centers

### • **MACOMs**

## • What:

- **Institutional training**
- **Self-development training**
- **Operational training**
- **Courseware prioritization process**
- **Managing dl courseware**
- **IT specifications & issue resolution**
- **Courseware validation & testing**
- **DoD ADL Sharable Content Object Reference Model (SCORM) conformance**

# Courseware Development and Fielding

- TADLP courses fielded  
158
- Army eLearning courses available  
2,600
- Army correspondence courses available  
1,554
- Reimer Digital Library products available  
14,855

# dL Courseware Training Strategy

In 1998 TRADOC proponent schools & Army MACOMs nominated 525 courses, of 1600+ total in the Army, for dL redesign

Prioritization of redesign funding reassessed yearly based on priorities of Army leadership, MACOMs & schools

TADLP funds the dL training strategy the proponent designs (TPIO ensures proponent has validated their training strategy and has necessary GFI for redesign)

**Generally 30% of a course is dL.  
Level III & IV Interactivity for IML.**

**TADLP funds and facilitates.  
Users determine design strategy.**

TADLP programmed to fund redesign of 32-47 courses per year 1998-2010

**Proponent Training Developers use System Approach to Training (TR 350-70) to design each course (whether to use dL, how much dL to use, selection of appropriate media and delivery method)**

TADLP provides funding to schools to update courseware that has become obsolete or where training strategy has changed

# Task-based Training

## What

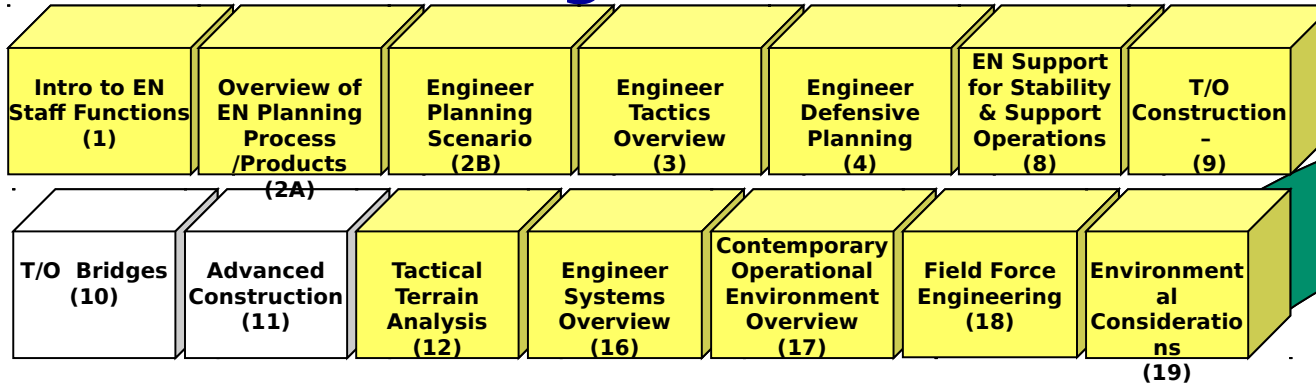
- Move TADLP from focus on Institutional training domain to Operational training domain. Deliver timely and relevant, Task-based training products to operational forces in the field and to training institutions

## Why

- Everything we do must be designed to support Soldiers in their operational environment
- Task-based training products support unit METL, support new operational tasks, support PME and DMOSQ requirements and support ARFORGEN model
- Best practice for reusability, sustainment and relevance

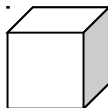
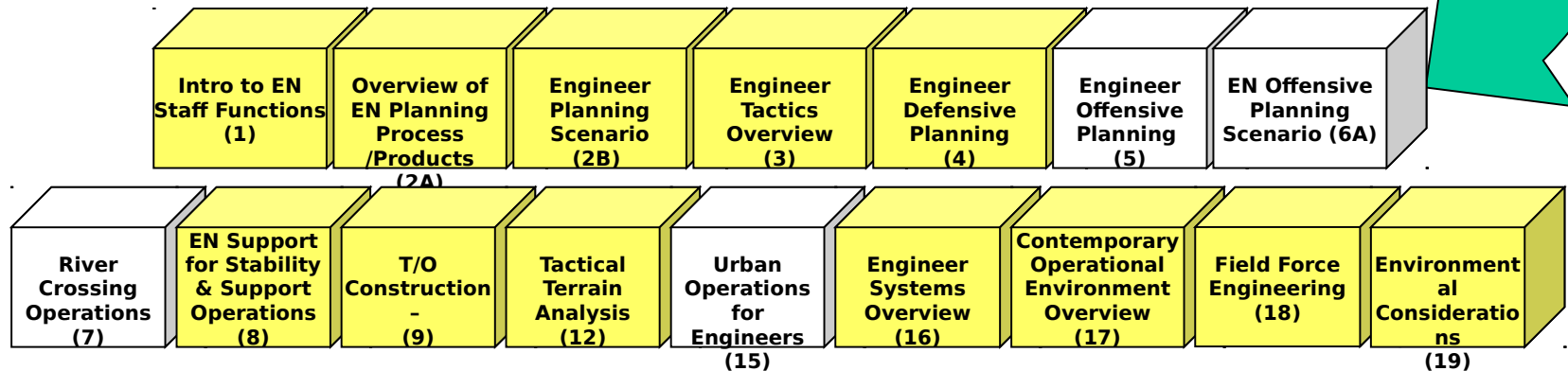
# Real-Life Example

## Construction Engineer Staff Course

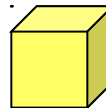


Requires only 4 additional Modules

## Assistant Brigade Engineer Staff Course



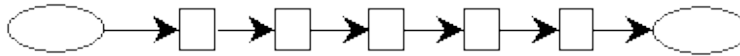
Unique Modules



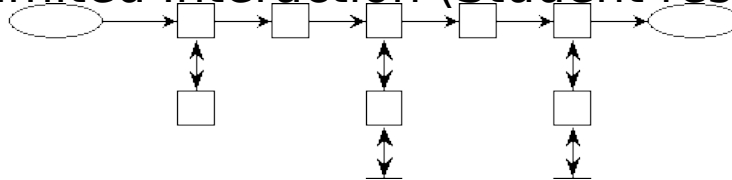
Common Modules

# dL Courseware Levels of Interactivity

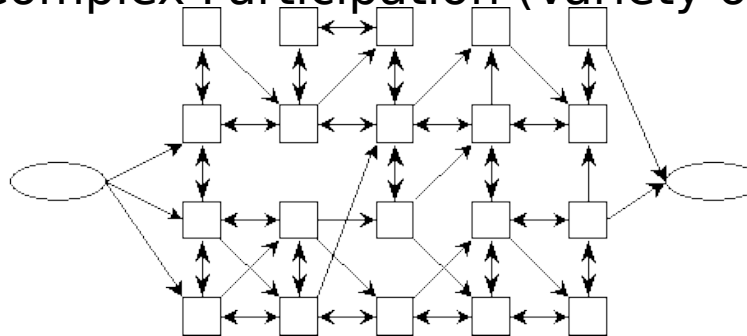
- Level I – Passive (Student is receiver of the information)



- Level II – Limited Interaction (Student responds to cues)



- Level III – Complex Participation (Variety of techniques used for responses)



- Level IV – Real-Time Participation (Life-like sets of cues and responses)



# Battle Staff NCO Course (BSNCOC)

- dL delivery of the BSNCOC began in FY01
- Course is delivered in 2 phases
- Phase I is delivered via CD ROM
- Phase II is conducted either in residence at FT Bliss, FT McCoy (RC) or dL via VTT at remote locations
  - BSNCOC has been successfully delivered to Soldiers in CONUS
  - BSNCOC has been delivered to Soldiers deployed to Bosnia, Kosovo, Korea & Germany
- Army Research Institute (ARI) study confirms Soldiers perform equal to resident course based on performance

***Traditionally a 6 week 2 day resident course at FT Bliss***

***Cost \$759K to develop;  
cost avoidance of ~\$2.9M  
a year***

**• 10,071 Soldiers  
trained since FY01**

# Noncommissioned Officer Education System (NCOES)

## Issue

- Change in “conditional promotion” policy requiring mandatory attendance within one year of pin-on
- Deployments in support of Operations ENDURING FREEDOM, NOBLE EAGLE, and IRAQI FREEDOM reduced show rates at NCOES

## Current Status

- In an effort to reduce the NCOES training backlog, BNCOC common core is being delivered via VTT.
- Nine sites are being used to assist in delivering instruction: Forts Bragg, Campbell, Carson, Drum, Hood, Lewis, Polk, Riley and Stewart. Various dL mediums, such as CD-ROM, Web and VTT are being used to reduce the backlog.
- It is vital to the success of future OIF and OEF deployments and the organizations these NCOs serve, that they attend and complete the next phases of their respective Professional Military Education (PME).
- The endstate is to eliminate the training backlog within two training years.

## Where We Are Going

- The projected number of BNCOC common core students to be trained in FY06 via VTT is 4207

# Training Management Systems

## • Who:

- HQDA G-1
- TPIO TADLP
- PM DLS
- TOMA
- TDADD
- ATSC-ATISD
- Proponent Schools

## • What:

- Army Learning Management System
- Student services
- Quota management
- Implement dL courseware & training support materials
- Manage students
- Schedule training & resources
- Record training

# Training Management Systems Implementation

- The Army Learning Management System (ALMS) went “live” in FY05 with basic functionality
  - Fielded to TRADOC schools in FY05
  - Fielding to Army MACOMs begins FY06
- Development of interface between ALMS and ATIA-M underway
  - Automates input of vital course information in ALMS
  - Automates feedback of training analysis data to ATIA-M
  - Planned to go “live” in 3Q FY06
- Development of user enhancements underway
  - Incorporates deferred requirements for ALMS
  - Captures new requirements identified at fielded locations
  - Enables SCORM 2004 conformance in accordance with DODI

# Deployed Training System

## • Who:

- HQDA G-3
- TPIO TADLP
- PM DLS
- MACOMs
- Proponent Schools

## • What:

- Deployed Digital Training Campus
- Blurs line between Institutional & operational training domains
- Reachback capability

# DDTC Gen 4 Prototype - Where We Are

**Newest of 9 DDTC Prototypes begins to capture the functionality of the objective system**

- Synchronous and asynchronous training platform
- High bandwidth access to ALMS and AKO
- Simulations such as OneSAF capabilities



**Portable  
in 1  
HMMWV!**

- Wired and wireless configurations allowing rapid setup with small deployment space footprint
- Networked with reach back capability
- Based on ARFORGEN model expect to field 30 DDTC's beginning FY07

**Satellite link connects remote sites with any VTT or VTC system globally. DDTC is virtually unlimited in connecting to any other communication technology systems.**

# Sustainment

## • Who:

- **HQDA G-3**
- **HQ TRADOC**
  - DCSRM
  - DCSOPS&T
    - TDADD
    - ATSC
- **PEO EIS**
  - PM DLS
- **Proponent Schools**

## • What:

- **Update courseware**
- **Maintain & upgrade facilities & communications**
- **Add new technology**
- **Restock training materials**
- **Develop new courseware**
  - Officer Education System (OES)
  - NCOES
  - WOES
- **Adjust for transformation requirements**

# Challenges to dL Implementation & Lessons Learned

- **Funding**: Significant “holds” and “decrements” beginning in FY98
  - Courseware development often delayed to 2<sup>nd</sup> or 3<sup>rd</sup> quarter, resulting in hemorrhage of contractor SMEs
  - ALMS developed to incomplete requirements set, resulting in limited initial user functionality
- **Culture**: Lack of AC and Leadership “buy-in”
  - AC culture of returning to proponent schoolhouse throughout career
  - Unit leadership does not fence dL time during duty day
  - Proponent Schools perception of dL threat to funding
- **Learning Curve**: No comparable programs in government or industry
  - Army first to implement formal “corporate” level dL program in DoD
  - No resource pool for courseware developers
  - Army first to identify best business practices – at a cost
- **Mid-Course Corrections**: Impact of well intentioned change to guidance

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• SCORM; unit training products; web-based vice DTF; competing automation



# Benefits Summary

## Leveraging Information Age Technologies in Training...

- Improved readiness
- Continuous training environment throughout career
- Blurs distinction between training and operating environment
- Facilitates development and distribution of critical training
- Reduces time Soldiers are away from unit/home
- Training efficiencies by use of multimedia
- Significant training cost avoidances
- Provides standardized RC and AC training
- Places FM's and reference materials at users fingertips
- Accessibility to online higher education courses
- Quicker & wider dissemination of updated training materials
- More realistic simulations with many more real life players

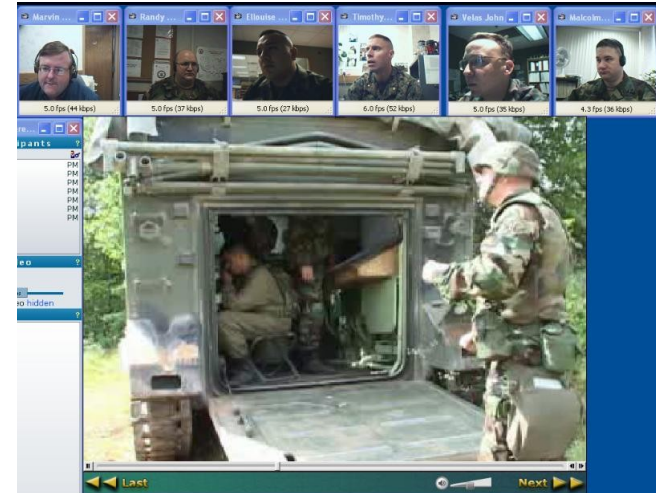
# Questions?

# Back-Ups

# Gator Six Demo

## Virtual Experience Immersive Learning Simulation

- Simulations based on the complexities of interactions between human beings
- Experiential “learning by adapting” in a safe environment
- Decision making under real-life pressures and stresses
- Highly engaging, first person interaction, putting learners at the center of the action and learning experience
- Asynchronous and synchronous approaches to learning



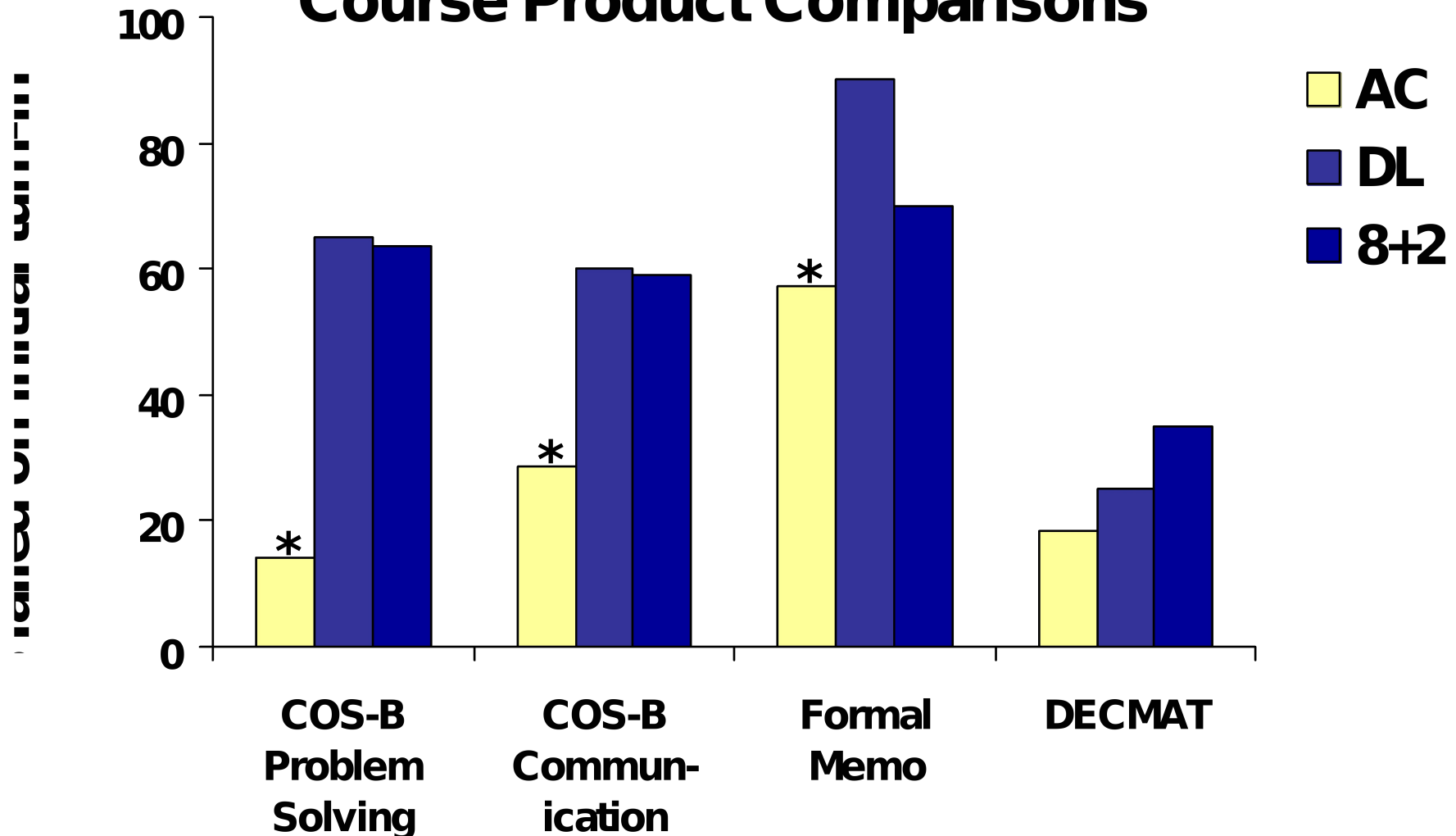
“Gator Six helps you think about certain situations that you don’t necessarily think about prior to getting into those situations. ... We’re being asked to do a lot of jobs that are not traditionally our jobs... We’re fighting a different kind of war.”

Captain Neal Fisher

FA CCC

# Results - Tangible Training Objectives

## Course Product Comparisons



\* indicates statistically significant difference between AC and dL

# State of the Art Assessment (Ongoing)

<u>Industry</u>	<u>Academia</u>	<u>Government</u>
<ul style="list-style-type: none"><li>•AT&amp;T</li><li>•BDM</li><li>•Bell Labs</li><li>•Booze Allen</li><li>•Cubic Applications</li><li>•EDS</li><li>•Ford</li><li>•General Motors</li><li>•IBM</li><li>•Institute for Defense Analysis</li><li>•Information Technology Solutions</li><li>•Lockheed Martin</li><li>•Microsoft</li><li>•Oracle</li><li>•Ostendorf</li><li>•Public Broadcasting System</li><li>•Silicon Graphics</li></ul>	<ul style="list-style-type: none"><li>•Carnegie- Mellon</li><li>•College of William &amp; Mary</li><li>•Florida State Univ</li><li>•George Mason Univ</li><li>•Indiana Univ</li><li>•New Mexico St Univ</li><li>•MIT</li><li>•Northwestern Univ</li><li>•NYIT</li><li>•Oak Ridge Association of University</li><li>•Penn State Univ</li><li>•Rensselaer Polytechnic Inst.</li><li>•Southern Illinois Univ.</li><li>•Univ. of Northern Colorado</li><li>•Virginia Tech</li><li>•Walden Univ.</li></ul>	<ul style="list-style-type: none"><li>•Army Research Inst.</li><li>•Defense Advance Research Project Agency</li><li>•Department of Labor</li><li>•Department of Education</li><li>•Department of Commerce</li><li>•FAA</li><li>•Los Alamos National Labs</li><li>•Justice Department</li><li>•Post Office</li><li>•RAND</li><li>•U.S. Coast Guard</li><li>•U.S. Navy</li><li>•U.S. Air Force</li></ul>

# **RAND Findings, 2001**

## **Enhancing Personnel Readiness with dL, RAND 2001**

***“The Army has invested in dL because of its obvious benefits: flexibility to offer training at multiple locations, thus reducing Soldiers’ travel costs and time away from home station, as well as the ability to integrate training into individual work schedules and to train continuously.”***

***“Industry and academe have had extensive experience with dL. To optimize the use of dL, the Army must learn from that experience and take full advantage of emerging learning technologies with emphasis on asynchronous Web-based courses.”***

***“By using dL to train Soldiers at their home posts instead of requiring them to travel to schools, the Army involves them and their chains of command more fully in the training process.”***

***“An additional advantage of dL is that the material can be updated continually and monitored for effectiveness.”***

# Leadership Analytics

ARI Technical Report. “Applying Collaborative and e-Learning Tools to Military Distance Learning: A Research Framework”(September, 2000).

- Review of [230](#) relevant reports from the educational literature including summaries of findings on collaborative tools and individual differences.
- Emergence of e-Learning technologies (Internet) and the associated capability to support collaborative/team-oriented learning makes dL a good fit for some aspects of leadership education.
- Evolution of leadership education towards assisted learning, student-centered learning, and learning-team centered approaches makes some aspects of leadership education good fits for dL applications.

Naval Post Graduate School Thesis, “Improving Leadership Training at the US Naval Academy by Utilizing Interactive Multimedia Instruction (IMI)”(June, 1999).

- Review of leadership training requirements at the Naval Academy , leadership theory, and educational literature evaluating the use of IMI for leadership training.
- IMI suggested as an alternative to, or as a supplement to, learning leadership through ‘situational experiences” which can result in inconsistent or inadequate opportunities for officers and NCOs to practice leadership.

ARI, “Assessment of Initial Delivery of the Armor Captains Career Course (DL)” (June, 2001).

- Students in the AC3 dL did as well or better than students in the AOAC-RC program.
- Survey and interview responses from the AC3dL students and instructors were positive regarding the course quality.



# Leadership Analytics

TRAC, "Distance Learning Annotated Bibliography" (June, 1997)

- Review of 106 articles and books from the education, social sciences and business literature
- Literature on professional education indicates that seminars conducted by e-mail, VTT or electronic bulletin board are an effective way of conducting these seminars and reticent students are more likely to contribute.
- Eight German NCO courses taught by CBT successfully achieved the learning objectives and were rated by students as helpful, supportive and motivating. (Weise, Peterson, and Wimmel, 1995)

ARI, "Post-graduate Study of the Effectiveness of dL Methods of Instruction in the BSNCOB (Briefing Oct 2000)

- End of course completion rates and test scores were comparable between dL and resident courses
- Each group performed equally well according to on-the-job supervisory ratings

ARI, "Training Through Distance Learning : An Assessment of Research Findings" (June, 1999)

- Review of 43 reports from the distance learning literature focused on the use of dL for training
- Study of Command and General Staff College Course-Reserve Component delivered via one-way video/two-way audio found that the dL group received significantly higher scores on measures of learning than the comparison groups. (Keene and Cary, 1990)

# Technical Analytics

- TRAC, dL Computer Based Instruction with Voice Recognition Study (1992)
  - 10 Spanish and 10 French lessons that introduced students to new vocabulary through interactive exercises which used voice recognition software
  - No significance difference in student performance (course quizzes, end of course test, and the Defense Language Proficiency Test) between experimental and control group
- TRAC, MOS 63W Wheeled Vehicle Repairer (1992)
  - Remove and install engine, remove and replace transmission, remove, repair, and replace clutch assembly; perform compression checks; adjust injector rack control levers; Set Test Equipment/Internal Combustion Engine-HMMWV; Replace front differential carrier assembly on the M809
  - Students trained via video performed significantly better on 4 of 6 tests, and equally as well on 2 other lessons when compared to the traditional group
- TRAC, MOS75B Personnel Management Specialist (1992)
  - Typing, preparing military correspondence; Tactical Army Combat Service Support System operation; preparing personnel actions; preparing Standard Installation/Division Personnel Systems input; processing Personnel Transaction Register & Joint Military Pay Systems; preparing Strength Management Report; processing enlisted promotions; preparing/processing Leave or Unit Letter Transmittal
  - No significant differences on end of course test scores for CBI, conventional, or a combination of the two. If students are motivated and can work at their own pace, the course could be cut 2-3 weeks

# Technical Analytics

TRAC, "Distance Learning Annotated Bibliography" (June, 1997)

- Review of 106 articles and books from the education, social sciences and business literature
- Delivery of hands-on training via VTT for the Damage Control Petty Officer course was found to be as effective as resident instruction (Simpson, Pugh, and Parchman, 1992)
- TRAC said that dL can be as effective as resident instruction
- ARI, "Training Through Distance Learning : An Assessment of Research Findings" (1999)
- Review of 43 reports from the distance learning literature focused on the use of dL for training
- Two-week computer conferencing module included in the delivery of the Engineer Officer Advance Course -RC, was as effective as resident training for the material covered (flexible pavement structures, asphalt production, and petroleum pipelines). (Phelps, Ashworth, and Hahn, 1991)
- Delivery of air traffic quality assurance training via one-way video/two-way audio was as effective as resident instruction when measured in terms of post-test knowledge and satisfaction of trainees (Air Traffic Quality Assurance Specialists of the FAA) (Lennon and Payne, 1997)
- Ford Motor Company's "FORDSTAR" program, which provides training on product information, repair, sales and service to over 190,000 dealership employees in North America, has proven both effective and convenient (e.g. the number of "false positive" returns of component parts sent back as faulty

has decreased in direct relationship to those employees participating in maintenance training on those components via dL.) (Conley, 1998)

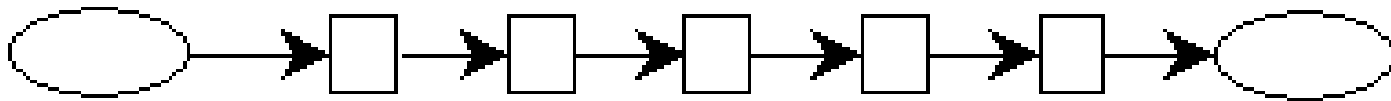
# Tactical Analytics

- ARI, “The Virtual Sand Table (VST): Intelligent Tutoring for Field Artillery Training” (March, 2001)
- CBI (multi-user, Internet capable), including an Intelligent Tutoring System, was integrated into the Field Artillery Captains Career Course to train complex skills in RSOP for battery commanders and firing platoon leaders.
- Students trained via the VST significantly outperformed those students trained via the conventional sand table method as measured by hands-on performance test.
- ARI, “Study on the Effectiveness of Distance Learning for the Battle Staff NCO Course”(Briefing October, 2000)
- Video-teletraining version of BSNCO course covering topics such as military decision making process and intelligence preparation of the battlefield was compared to the resident course at Fort Bliss.
- Long term effectiveness of dL version, in terms of performance on-the job, was comparable to resident training.
- STRICOM, Spearhead
  - Commercial tank simulation game (multi-player, Internet capable) is being integrated into Armor Captains Career Course to train tactical decision making in a collaborative environment.

# Courseware Interactivity Levels

**Level 1** is the lowest and the baseline level of ICW development. Use Level 1 to introduce an idea or concept, or to familiarize. Provide minimal interactivity by using selectable screen icons that are inserted into the linear, or almost linear, flow of the ICW. Allow the student little or no control of the sequence of instructional media presented, including: simple developed graphics, clip art and, customer provided video and audio segments (clips). Make use of typical input/output peripherals throughout the lesson.

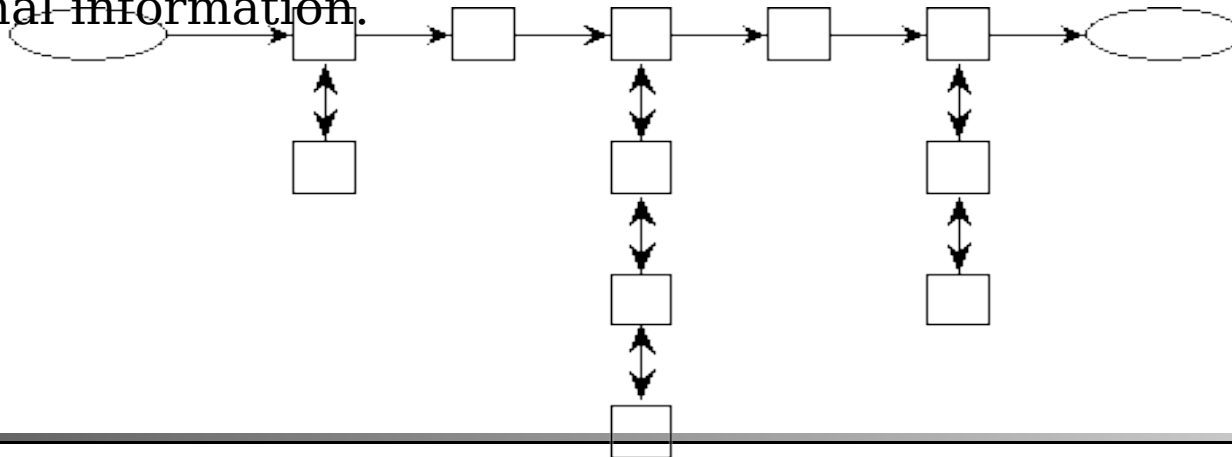
At its most rudimentary use, level 1 is commonly called 'a page turner.'



# Courseware Interactivity

**Level 2** requires the recall of more information than Level 1. Allow the student more control of the lesson by interacting with screen icons and other screen objects. Use multiple input objects on the screen to increase the interactivity of the lesson; multiple input objects cause branching structures to be built by you. Use remediation extensively to reinforce the learning objectives. Remediation causes a particular section of the lesson to be repeated (a 'no go' situation). Use simple branching for other instruction. Simple branching permits the student to veer from the main instructional path to seek additional information about a subject. Instruction remains essentially linear. Except for slight (i.e. remediation) digressions, the student moves through the instruction using a preplanned path.

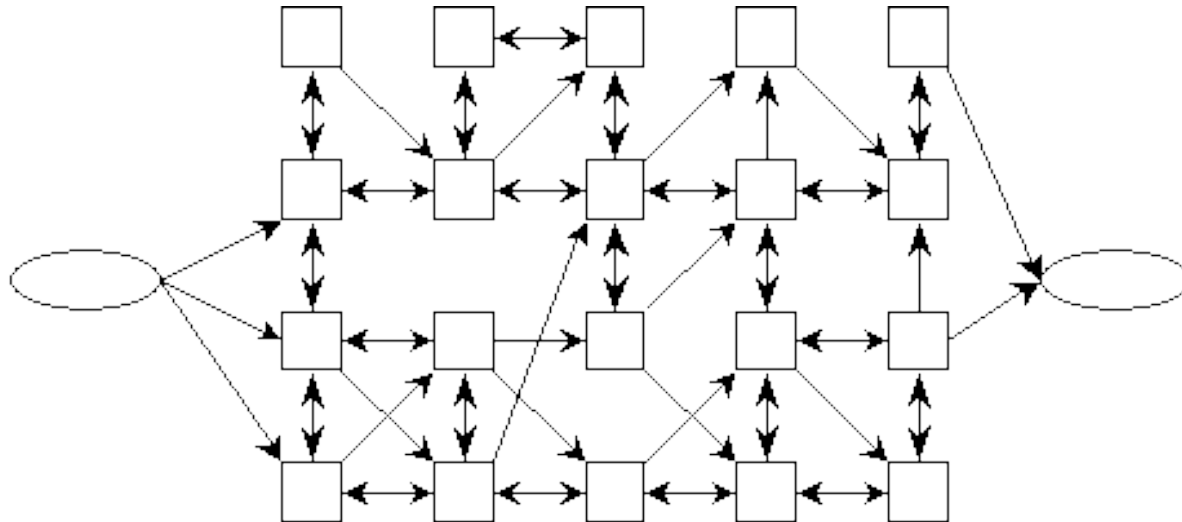
At its most rudimentary use, Level 2 presents a choice or question and after student interaction, immediately provides 'the correct solution,' or additional information.



# Courseware Interactivity

## Levels

**Level 3** involves applying complex information, to solve a problem. Prompting is reduced; student has increased level of control over the lesson. Use video, audio and graphics to simulate the operation for the student. The ICW for Level 3 typically is complex and can use peripherals such as a large screen TV; the ICW can also include ancillary training materials. Use simulation as an integral part of equipment operation and maintenance. Include at this ICW level complex graphics, video clips, and audio clips. Provide the student decision points from which multiple branching will occur. Branching follows a student decision or input; create a multiple branch by allowing a student to enter into a decision point. A branch can lead to a branch that leads to another branch.



# Courseware Interactivity Levels

**Level 4 Full simulation.** Students prove to themselves that they can perform specific tasks. Errors can be compounded, training prompts do not occur, feedback occurs after the student passes or fails. No remediation during the lesson, only at the end.



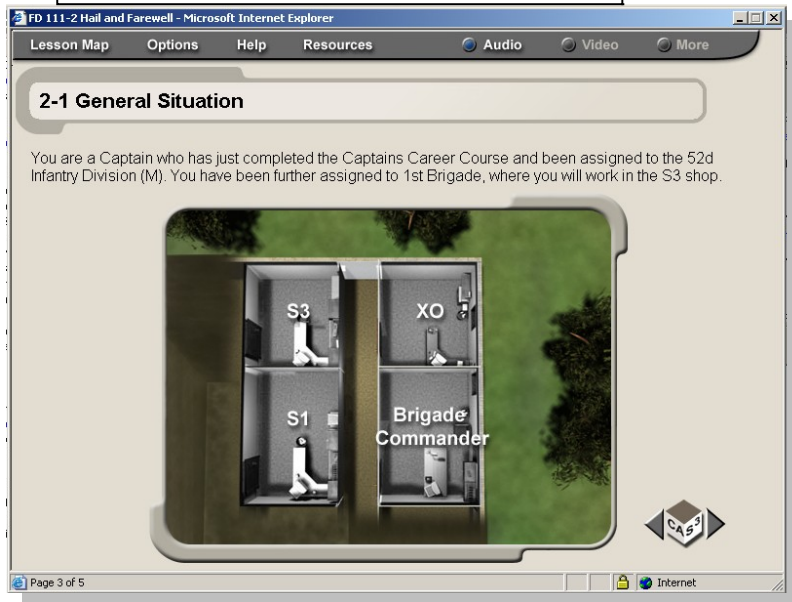
# Combined Arms & Services Staff

## School

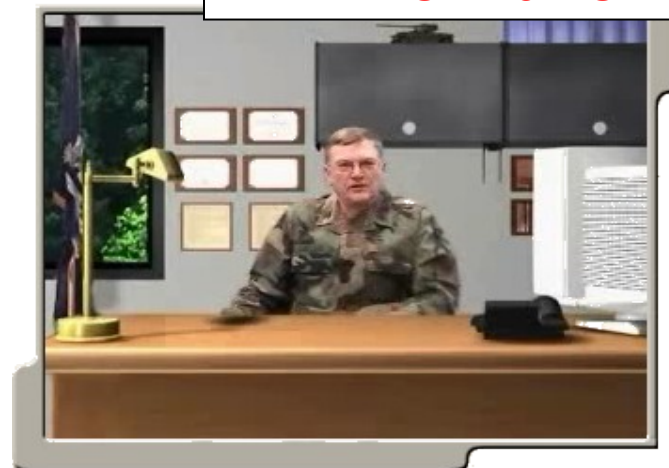
*CAS3 prepares CPTs for assignments as company commanders or battalion, brigade or division staff officers with instruction on problem solving, briefing techniques and effective writing*

- 128 Academic hours including 2 week resident phase
- 2/3 Asynchronous; 1/3 synchronous using CENTRA
- Excellent usage of scope of interactivity using web-based multimedia

### Interactive Screens



### Role-based Video Directions & Information



# Task-Based Training Reuse Strategy

- As more Soldier Tasks are re-engineered into Learning Objects for dL delivery fewer need to be built from scratch for subsequent dL courses
- dL course production becomes faster as database of Learning Object/ Soldier Tasks is populated

Learning Objects													
Sequential Course		1	2	3	4	5	6	7	8	9	10	11	F Y
	Course A	a	b	c	d	e	f	g	h	i	j	k	06
	Course B	l	m	c	n	o	p	q	r	i	s	t	07
	Course C	u	v	c	w	o	x	y	z	i	aa	t	08
	Course D	u	bb	c	cc	o	dd	y	ee	i	ff	t	09
	Course E	u	bb	c	gg	o	gg	y	gg	i	gg	t	10
	Course F	u	bb	c	hh	o	hh	y	gg	i	hh	t	11
	Course G	u	bb	c	hh	o	jj	y	gg	i	kk	t	12

Fiscal Year

Soldier Tasks

# Key ALMS Functions

*Army Learning Management System provides automated individual training management & dL delivery capabilities*

- Interfaces with other key Army systems for a 'system of systems' architecture (AKO, ATRRS, ATIA-M, BCKS-in the future, etc.)
- Registration and enrollment of students
- Scheduling resources to course iterations for resident and dL courses
- Identify and reconcile scheduling conflicts
- Monitor automated testing and student progress
- Distribute, deliver, store and present education and training products
- Provide synchronous and asynchronous collaboration
- Maintain training and education records
- Collect and store feedback and evaluations
- Maintain a cataloged database of education and training products and resources

# Stryker Vehicle Demo

- Provide Soldiers around the world, particularly those serving in the Operational Army, with quickly deployable Virtual Mobile Training Team (VMTT) Products (insertion of individual training into unit)

- A Blended Approach to train Soldiers at a distance

- Asynchronous (Self-Paced)
- Synchronous remote (Real-Time collaboration—multi-users at a distance)



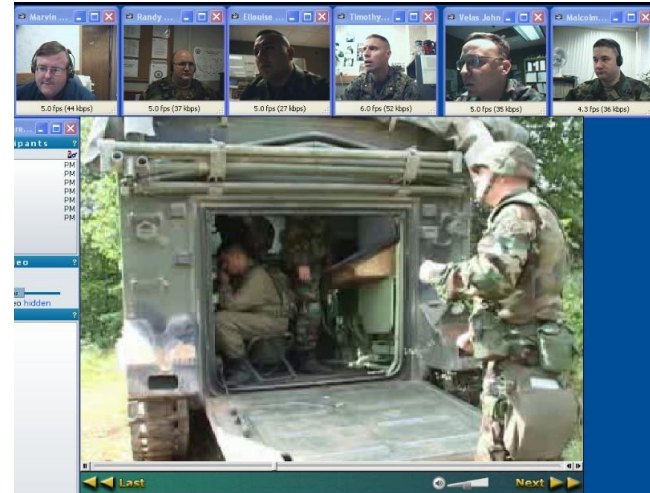
“The training is great, very diverse learning”

“I feel like I can go out to a Stryker and give a pretty decent evaluation of the tires”

“The interaction is great, I remained interested the entire time”

# Gator Six Demo

- Highly immersive and motivating battlefield decision making simulation
- Provides battlefield stress in a simulated environment
- Produced for Field Artillery, but provides practical decision making practice from which the learning can transfer to other branches
- ## (metrics)



Blended Learning research pilot being conducted with the FA CCC RC Phase 1B to study the effect of user presence when blending synchronous discussion to build critical thinking processes with Gator Six as a case study vehicle.